



Attorney's Docket No.: 09991-014001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Robert PALIFKA et al.
Serial No. : 09/749,893
Filed : December 29, 2000
Title : INK JET PRINTING MODULE

Art Unit : 2861
Examiner : M. Nghiem

Commissioner for Patents
Washington, D.C. 20231

AMENDMENT

In response to the action mailed February 20, 2002 ("Office Action"), please amend the application as follows:

In the specification:

Please replace the paragraph beginning at page 4, line 12 as follows:

-- One example of a piezoelectric ink jet printing module is a shear mode module, such as the module described in U.S. Patent No. 5,640,184, the entire contents of which is incorporated herein by reference. The electrical contacts in a shear mode module can be located on the side of the piezoelectric element adjacent to the ink channel. Referring to FIGS. 1A, 1B and 2, piezoelectric ink jet head 2 includes one or more modules 4 which are assembled into collar element 10 to which is attached manifold plate 12 and orifice plate 14. Ink is introduced into module 4 through collar 10. Module 4 is actuated to eject ink from orifices 16 on orifice plate 14. Ink jet printing module 4 includes body 20, which can be made from materials such as sintered carbon or a ceramic. A plurality of channels 22 are machined or otherwise manufactured into body 20 to form pumping chambers. Ink passes through ink fill passage 26, which is also machined into body 20, to fill the pumping chambers. Opposing surfaces of body 20 are covered with flexible polymer films 30 and 30' that include a series of electrical contacts 31 and 31' arranged to be positioned over the pumping chambers in body 20. Electrical contacts 31 and 31' are connected to leads, which, in turn, can be connected to flex prints 32 and 32' which include driver integrated circuits 33 and 33'. The films 30 and 30' can be flex prints (e.g., UPLEX, such as UPLEX S, UPLEX VT, available from Ube Industries). Films 30 and 30' are sealed to body 20. Film 30 and flex print 32 can be a single unit (not shown), or two units as shown. Surfaces between one or more of components 20, 30, 30', 34, and 34' can include the

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TRANSMITTAL LETTER

Correspondence relating to this application is enclosed. The required fees are computed below. Please apply any charges not covered, or any credits, to Deposit Account No. 06-1050.

Total Claims	46	-	43	=	3	\$54
Independent	6	-	3	=	3	\$252
First Presentation of Multiple Dependent Claims						\$0
TOTAL FEE DUE						\$306

A check for \$306 is attached.

Respectfully submitted,

Date: May 20, 02

Shailaja Shirodkar
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